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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,779	10/23/2003	Jerry A. Pickering	10161	7163

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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,779

Applicant(s)

PICKERING ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,9-17,19-23,26,30-38,40-44,47,51-59 and 61-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,9-17,19-23,26,30-38,40-44,47,51-59 and 61-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>3/15/06</u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

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1. The examiner acknowledges the cancellation of claims 3, 4, 6-8, 18, 24, 25, 27-29, 39, 45, 46, 48-50, and 60 and the amendments to claims 1, 2, 5, 20, 22, 23, 26, 41, 43, 44, 47, 62, 64, and 65 set forth in the amendment filed on May 10, 2006. Claims 1, 2, 5, 9-17, 19-23, 26, 30-38, 40-44, 47, 51-59, and 61-65 are pending.

2. The objection to the abstract set forth in the office action mailed on Feb. 24, 2006, paragraph 2, has been withdrawn in response to the replacement abstract filed on May 10, 2006.

The objections to the specification set forth in the office action mailed on Feb. 24, 2006, paragraph 3, have been withdrawn in response to the amended paragraphs in the specification filed on May 10, 2006.

The objections to the specification set forth in the office action mailed on Feb. 24, 2006, paragraph 4, have been withdrawn in response to the amendments to claims 20, 41, and 62 filed on May 10, 2006.

The rejections of claims 1, 2, 22, 23, 43, 44, 64, and 65 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Feb. 24, 2006, paragraph 7, have been withdrawn in response to the amendments to claims 1, 2, 22, 23, 43, 44, 64, and 65 filed on May 10, 2006.

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3. The examiner notes that the instant specification in paragraph 036 defines the term "modulus" recited in the instant claims as the "tensile modulus of elasticity" determined by a "dynamic mechanical analysis, at a frequency equal to the frequency of the fuser member."

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 20, 41, and 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 20, 41, and 62 are indefinite because it is not clear what is the basis of the limitations "at least about 20 parts [claim 41: 30 parts; claim 62: 40 parts]," e.g., by weight, volume, etc.

Applicants' amendment filed on May 10, 2006, did not address the rejection, which was previously presented in the office action mailed on Feb. 24, 2006, paragraph 7, page 7.

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6. In the interest of compact prosecution, the examiner has interpreted the amount ranges recited in instant claims 20, 41, and 62 as referring to the amount by weight of the fluoroelastomer continuous phase based on the total weight of the fusing surface layer.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 2, 5, 9-17, 19-23, 26, 30-38, 40-44, 47, 51-59, and 61-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,395,723 (Mahabadi) combined with US 6,586,100 B1 (Pickering'100), as evidenced by applicants' admissions in examples 1-7 and in Table 2 of the instant specification.

Mahabadi discloses an image forming method for forming an image on a substrate comprising the step of heat fixing a toner image to a substrate with a heated fusing roller. According to Mahabadi, the toner image is a low gloss image having a gloss of preferably from about 1 to about 15 gloss units. Mahabadi exemplifies forming toner images having a gloss of less than 5 gloss units. Col. 6, lines 35-41; col. 10, lines 54-56; col. 20, lines 49-65; and examples I-V in Table 1 at

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cols. 24-25. A gloss of "less than 5 gloss units" meets the gloss ranges recited in instant claims 1, 2, 22, 23, 43, 44, 64, and 65. The toner comprises a binder resin that comprises an unsaturated linear polyester resin that is partially cross-linked, i.e., a mixture of a linear unsaturated polyester and a cross-linked polyester resin. Col. 6, lines 30-34; col. 9, lines 17-28; and examples I-V. The toner meets the compositional limitations recited in instant claims 5, 26, and 47. According to Mahabadi at col. 10, lines 16-21, the toner has preferably a melt viscosity of about 20,000 to about 100,000 poise at 100°C and from about 1,000 to about 80,000 poise at 160°C. The upper endpoint, "about 100,000 poise," of the melt viscosity range of about 20,000 to about 100,000 poise at 100°C is numerically within the viscosity range of "at least about 100 Kpoise" recited in instant claims 1, 2, 22, 23, 43, 44, 64, and 65. Mahabadi at col. 10, lines 36-40, further teaches that the toner preferably has a minimum fixing temperature of from about 100 to about 160°C. Thus, Mahabadi teaches a toner having a melt viscosity at a fixing temperature of 100°C that meets the viscosity ranges recited in instant claims 1, 2, 22, 23, 43, 44, 64, and 65.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Mahabadi, to

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adjust, through routine experimentation, the portions of the cross-linked polyester resin and the linear polyester resin in the toner disclosed by Mahabadi, such that the resultant toner has a melt viscosity at the time of fixing that is within the viscosity ranges recited in claims 1, 2, 22, 23, 43, 44, 64, and 65. That person would have had a reasonable expectation of successfully obtaining an image forming method that provides low gloss toner images having a gloss of less than 5 gloss units.

Mahabadi does not exemplify a fusing roller having the composition recited in the instant claims. However, Mahabadi does not limit the type of fusing roller used.

Pickering'100 discloses a fusing roller that comprises a base and a fusing surface layer that comprises a fluorocarbon-silicone interpenetrating network. The network comprises a fluoroelastomer continuous phase that comprises a dispersed discontinuous phase comprising the curable silicone rubber associated with the SFR-100 produced by General Electric. The fluoroelastomer continuous phase comprises the fluoroelastomer associated with the tradename VITON A produced by E.I. DUPONT. The dispersed phase has an average domain size of 28.6 μm . Example 3 at col. 11 and in Table 2 at col. 12; and col. 12, lines 56-59. The average domain size of 28.6 μm is within the domain mean diameter ranges recited in instant claims 19, 40,

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and 61. The silicone rubber associated with the SFR-100 is identified as a mixture of a polydimethylsiloxane and a polytrimethylsilyl silicate resin having monofunctional and tetrafunctional repeating units. Col. 10; lines 17-29. The silicone rubber SFR-100 meets the discontinuous phase compositional limitations and particle size recited in instant claims 9-13, 19, 30-34, 40, 51-55, and 61. The Pickering'100 fluoroelastomer continuous phase is present in an amount of about 59 parts by weight per 100 parts by weight of the fusing surface layer. The amount of about 59 parts by weight was determined from the information provided in example 3. The amount of about 59 parts by weight of the fluoroelastomer continuous phase per 100 parts by weight of the fusing surface layer meets the amount ranges recited in instant claims 20, 41, and 62.

Pickering'100 does not explicitly disclose that the discontinuous phase is present in the fusing surface layer in the volume percentages recited in instant claims 21, 42, and 63. However, the Pickering'100 discontinuous phase is present in the fusing layer in an amount of about 30 wt% based on the total weight of the fusing layer. The amount of about 30 wt% was determined from the information provided in example 3. The amount of 30 wt% is within the numerical ranges of the volume

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parentage ranges recited in instant claim 21, 42, and 63. Thus, based on the presumption that the discontinuous phase and the continuous phase have approximately the same density, it would be reasonable to conclude that the discontinuous phase is present in the surface layer in an amount of about 30% by volume of the fusing layer, which is within the ranges recited in instant claims 21, 42, and 63. Accordingly, the burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

According to Pickering'100, the fusing member has excellent toner release properties without sacrificing coating quality or uniformity. The fusing member also has improved wear resistance. Col. 3, lines 37-47; and col. 13, lines 49-55.

Pickering'100 does not disclose that the fluoroelastomer continuous phase and the discontinuous silicone rubber phase have the modulus limitations recited in the instant claims. However, as discussed above, the Pickering'100 fluoroelastomer continuous phase and the discontinuous silicone rubber phase meet the compositional limitations recited in the instant claims. In the instant specification, the examples of the invention use the same fluoroelastomer VITON A and the same silicone rubber SFR-100 as the fluoroelastomer in the continuous phase and the elastomer in the discontinuous phase. See, for

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example, example 1 in paragraph 0238. The instant specification does not explicitly disclose that the continuous phases and dispersion phases in examples 1-7 have the required modulus limitations recited in the instant claims. However, the instant specification shows that the fusing members in examples 1-7 provide images with the gloss recited in the instant claims. Thus, it appears that the fusing members in examples 1-7 satisfy the required modulus limitations recited in the instant claims. Accordingly, because the Pickering'100 fluoroelastomer continuous phase and the discontinuous silicone rubber phase appear to be the same or substantially the same as those exemplified in the inventive examples of the instant specification, it is reasonable to presume that the Pickering'100 fluoroelastomer continuous phase and the discontinuous silicone rubber phase satisfy the modulus properties recited in the instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Pickering'100, to use the Pickering'100 fusing roller as the fusing roller in the image forming methods disclosed by Mahabadi and rendered obvious over the teachings of Mahabadi. That person would have had a reasonable expectation of successfully obtaining an image

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forming method that provides low gloss toner images having a gloss of less than 5 gloss units for many repeated runs with improved toner release properties and without the deterioration of the fusing roller.

Applicants' arguments filed on May 10, 2006, have been fully considered but they are not persuasive.

Applicants assert that the present invention provides a method of producing low gloss regardless of the toner used, while "Mahabadi is concerned with producing a low gloss by providing a toner with a large gel component." Applicants assert that "[i]n Mahabadi, all of the Examples show toners having a melt viscosity of substantially less than 100 Kpoise at 100°C," while the instant invention requires a viscosity of at least 100 Kpoise at the fusing temperature. Applicants assert that in paragraph 0197 of the instant specification the "fusing temperature is defined as being from 120 to 200°C." Applicants further note that the examiner "did not rejected claims 6, 27 or 48 which all require a viscosity of at least 100 Kpoise." Applicants conclude that their claimed invention does not encompass the Mahabadi toners.

Applicants' assertions are not persuasive. The instant claims do not exclude the Mahabadi toner. As discussed in the rejection above, Mahabadi toner meets the toner compositional

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limitations recited in instant claims 5, 26, and 47. As discussed in the rejection above, Mahabadi teaches that its toner may have a melt viscosity of "about 100,000 poises" at a fixing temperature of 100°C, which meets the toner melt viscosity limitation recited in the instant claims. Although Mahabadi may not exemplify toners having a melt viscosity at the fixing temperature as recited in the instant claims, the disclosure of a reference is not limited to its examples, or to its preferred embodiments. Rather, a reference is relevant for all that it teaches. In re Heck, 216 USPQ 1038, 1039 (Fed. Cir. 1983).

"[I]n a section 103 inquiry, 'the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.'" Merck & Co. Inc. v. Biocraft Laboratories Inc., 10 USPQ2d 1843, 1846 (Fed. Cir. 1989) (quoting In re Lamberti, 192 USPQ 278, 280 (CCPA 1976)).

Furthermore, the examiner did not reject previously filed claims 6, 27, and 48 over Mahabadi because those claims required that the toner comprise a "partially crosslinked styrene-butylacrylate toner." As discussed in the rejection above, Mahabadi teaches toners comprising a partially cross-linked unsaturated linear polyester resin, not a partially crosslinked styrene-butylacrylate as recited in now-cancelled claims 6, 27,

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and 48.

Moreover, contrary to applicants' assertion, paragraph 0197 in the instant specification does not define the fusing temperature as being from 120 to 200°C. Rather, the specification states that "as a matter of preference, the temperature of the fusing process, and preferably particularly of the fusing surface layer contacting the toner, is from about 120°C to about 200°C" (emphasis added). Applicants cannot argue patentability based on limitations that are not present in the instant claims.

Thus, for the reasons discussed above and for the reasons discussed in the rejection above, Mahabadi renders obvious a toner that meets the toner melt viscosity limitation recited in the instant claims. The combined teachings of Mahabadi and Pickering, as evidenced by applicants' admission, render obvious an image forming method that meets the steps recited in the instant claims. Accordingly, the rejection over the cited prior art stands.

9. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are

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reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Mr. Nam Nguyen, can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or

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(IN USA OR CANADA) or 571-272-1000.

JLD

Jul. 12, 2006

Janis L. Dote
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PRIMARY EXAMINER
GROUP 1500
1706